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LANDSCAPE ARCHITECTURE FROM THE STANDPOINT OF PRACTICE

By Bryant Fleming

Assistant Professor of Rural Art, Cornell University

TO solve seven problems in six days is not the unusual demand made upon the landscape architect. You start out on one of your consultation or inspection trips. Monday, we will say, you visit Toronto. You find that your problem is the locating and designing of a small rose garden for Mrs. Jones, who knows she wants a rose garden, and has not only mentally chosen its site, but she has even considered its detail. Your first duty is to convince, not design; and if you are successful, you come away agreed that the garden shall open off the living rooms of the house, and not be a detached idea floating about in the midst of the lawn, and hurry off to catch your five thirty train to Cobourg, where you are creating a new country place; new from the clay up.

In the morning you hurry up to the work, locate your superintendent in a sea of mud, and find him in the midst of heavy grading work and the moving in and planting of innumerable large trees. They are forming the basis of your picture; creating its composition.

To be sure, it has been carefully studied out on plan, but your day is full; improving a grade here, more carefully locating a new tree there, considering even the smallest detail so as to better bring out and express your original idea of what the arrangement of the property should be; for, as one of the great masters of landscape design has said, "The intent of your design is not to be realized unless the entire construction of it is under one mind, which must have a perfectly clear and definite conception of what he wishes his finished product to be; and, granted a careful and well studied plan of the property has been made, it must show a zealous unalterableness, that no item, no matter how attractive it may be individually, shall be permitted if not in strictest harmony with the prevailing spirit of the work. One idea must prevail and all else be made subordinate to it."

Your next destination is a small town in the Laurentide country, peopled entirely by the French, and the home of one of the largest paper mills in the world. They have retained you to give their employees suitable surroundings; a clean well ordered mill yard with a luncheon grove as one of its features; playgrounds for the children; a small park for the town; simple well designed cottages, set in equally homely surroundings; civically organized streets and, in fact, make of their town a well thought out and organized whole. For good home grounds breed better home life, and where men are well cared for, and furnished with wholesome surroundings, labor troubles are at a minimum.

You find upon arriving that much devastation has been done in the original settling of the site; a cold, barren town has been made, streets laid out regardless of contour, every tree in sight wiped away, and a flimsy, cheap, wooden architecture, the result of a hurried settlement prevalent

everywhere. Your heart sinks until you meet your employer, whom you find to be a man of considerable vision willing in the extreme to let you rip apart what has been done and restore original conditions.

As Charles Eliot said many times, "Landscape architecture is the art of preserving, enhancing or creating out of doors beauty." And surely here is your chance to do all three; preserve the beauty of the falls and their immediate surroundings, protect them; enhance the beauty of the river banks by carefully and fully restoring their original conditions; and finally, to create a new town in the full glory of the old habitant character, minus the galvanized iron steeple.

You stay here a couple of days studying the conditions and needs of your problem and outlining the method of your procedure. Leaving with a promise to send a surveyor at once to obtain the information necessary upon which to base your future plans, you hurry south, this time to Albany, where you are to study the improvement and arrangement of a large farm.

You find the farm is located about twelve miles below Albany upon the west bank of the Hudson, almost ideal in site, with splendid views up and down the river, and off to the east, where the Berkshire hills show up strong upon the horizon. Your day is spent studying the drainage and water supply, the proper management of the wood lot, the improvement of the house and farm buildings, the arrangements of the roads and lanes, now in poor stony condition and upon bad grades, and many other things which make for a good agricultural condition.

You find you do not need to recommend the making of plans here, for what is needed is suggestion. Your client a retired broker, perhaps, is intelligent, and what is more, is going to have some fun in the working out of the problem. You visualize a house in old field stone, which will pick up all the fine distant views, and perfectly express its use and surroundings. You do not see it all gardened up, but instead, overlooking the river, with a fine landscape pasture for its foreground, and the stables pushed back behind a convenient clump of trees, where they will be close by, but screened a bit from view. You want to draw a block plan of the house, indicating at once where the principal rooms shall be located to best display the offscape; and oh, you are so anxious to convince the architect that the house must be "farm-house" colonial, and not Jacobean English. It is your province merely to suggest these basic ideas to the architect, to feel and study out what is best for the site, and the natural, unchangeable, existing conditions, but not to design his house to be sure. You remember how your first employer, when you were serving your apprenticeship in Boston, used to tell you how hard it was in his earlier experience, to even get the architect interested in your layout, let alone dare suggest to him the character and arrangement of his house. And how strongly he impressed upon you that you must understand architecture, so as to be able to intelligently recommend and consult relative to it. At that time you could not always see why you must be trained in the fundamentals of engineering drainage, farm management, forestry, and the like. Now, however, you understand that the success of a landscape designer depends not only upon an artistic temperament showing an inherent love of nature and appreciation of beauty, but upon a knowledge of plants, as elements of landscape; a knowledge of architectural principles and styles; a familiarity with certain and various arts and handicrafts, such as the making of roads, grading, drainage, forestry, etc.; a knowledge of the practical side of horticulture, botany, agriculture, and other allied subjects; an understanding of the elements of perspective, drawing, color work, and freehand sketching; and above all things, upon being a master of the elements of both composition aand design. These requisites have all been demanded of you, even in the

solving of this problem, and you thank your stars that you know as much as you do about them, which at the most is not too much.

Tomorrow is Saturday, and you have been away from the office an entire week, yet your schedule reads two more appointments. You are building a cemetery in Northeastern Pennsylvania, and are due for a visit of inspection and consultation on Saturday, and Monday you have promised to buy garden ornaments and furniture in New York with and for, one of your most important Western clients, whose formal and elaborate city garden you have just completed. It had to be perfect, and after two years of constant effort you find, like a completed house, it is ready for its furniture; a fountain, some benches, and a statue or two.

Off you go to Pennsylvania, and all of Saturday is spent on the work, and a hard day it is too, not nearly as much fun as yesterday. The acreage is large, and the modern cemetery must not only be a sanitary burial place, but a park as well. You enjoy parks, but hate cemeteries. You appreciate and create them in the manner of natural park scenery, full of landscape composition, and interest, only to find them marred in the future by innumerable shafts of white, destroying all sense of unity and repose. Surely if ever there was a landscape problem in which these two fundamental principles should be uppermost, it is the cemetery. However you forget the future, and try to convince yourself that there will be no such disturbing elements. Your time is again spent in interpreting your ideas and plan to your engineer, teaching him, as you go, to feel the governing natural features of the design; the building of your picutres; the proper draining of the land for burial use, and the laying out of reoads over easy grades. All formality of design is forgotten, and your last words to your representative and those in authority are, to remember that a cemetery should be a park, minus all annoying and distracting features. Peace with the world is not suggested by gay and distracting flower beds, but is indicated by a quiet restful repose, only to be had by allowing and helping Nature to give you one of her best landscapes.

It is quite a jump from the designing of a cemetery to the "Gay White Way," of New York. On Monday you put in a day spending so easily some one else's money for things you would give so much to own yourself, and yet, which, you so gladly turn over to his use on account of the interest you have in your client's garden, for you feel that they are the completion of the mental picture you framed long before the garden was finished.

Then you clear out for home and all of Tuesday you are busy picking up the things which have been accumulating during your absence. Letters are to be answered, new appointments considered, plans to be criticized in the drafting room, and the time is all too short, for in a few days you will be off again , this time possibly to the West.

You will see from the above, that the practice of the profession is both pleasant and arduous. It requires a broad understanding of the needs of people, their life and work. Varying social conditions must be met and understood, and the personal equation must be reckoned with. A live interest in art must be maintained, for surely a landscape design must be a work of art. Too, a practitioner must be not only æsthetic; he must understand business and its controlling principles. The work he is doing costs money, and the finances of his client must be handled with care and good judgment. Especially is this so, in order to help eradicate the now prevalent notion that landscape architecture is a costly luxury, permitted only to the few. Instead it should be an art understood and obtainable by all, for the saving grace of our country lies not alone in its power and prestige, but in the beauty and completeness of its civic and domestic conditions.

Student
Photographs
taken on the

Hudson River
Inspection Tour

June 1909

LANDSCAPE ARCHITECTURE FROM THE STANDPOINT OF INSTRUCTION

By G. E. Burnap

Instructor in Landscape Architecture, Cornell University

Teaching a professional subject means strenuous and steady application of theory to student minds that revolt at the least suggestion of pedagogy and demand on the contrary work-a-day material of a practical kind that may be converted immediately upon graduation into a windfall of golden dollars. From the student point of view theoretical knowledge should no longer essentialize collegiate training; scholarly attainment is to the student a thing of the past and cultural ideals in no way correlate with business success.

The first aim of many an entering class unfortunately is to acquire in as brief a space of time as possible an exhaustive vocabulary of wise-sounding, office catchwords and drafting room patter. "'Keen" design, "Classy" detail, "Axed" motives are phrases that roll off spontaneously, phrases that smack of the professional draftsman but are not essential to the college graduate.

The college graduate must aspire rather to the fundamentals of the profession he has chosen, to analytical appreciation of the elements of landscape and the elements of architecture. He must acquaint himself with the history of the landscape work that has been done in the past, with the chronological development of gardening art from the time of the Egyptians, the Persians and the Greeks; with the modifications and innovations resultant from the applied talent of the Italians; he must be familiar with the genius of LeNotre and the master mind of English landscape, Sir Humphrey Repton. He must study and examine American conditions, climatic, geographic and temperamental, and with a mind well prepared to select and synthesize from a vast fund of well organized information garnered from all the annals of the past, he must develop and create what the architect is working for in architecture, a type of landscape art that shall fare forth as essentially and individually American.

Doubtlessly this sounds visionary to the average reader of this magazine. It may sound heretical in so far as it intimates that the instruction in landscape art is not holding the student up to ideals and high standards. The landscape architects in the professional field will grimace at the assertion on the writer's part that there is too great tendency toward practical specialization and preparation for office servitude in landscape instruction at the present time and not enough attention is given to basic principles and underlying laws of design.

From the educational point of view, the landscape graduate of today, because of too close attention to business demands, is inadequately prepared to grasp the subject in a broad, comprehensive, unbiased-by-petty-detail fashion, and consequently unprepared to forward the ideals of the profession in developing landscape architecture to a point where it shall be recognized as an art rather than as a business.

From the practitioner's point of view, on the other hand, the landscape graduate of today is wholly unprepared to accept responsibility or the brunt of immediate service as office assistant due to lack of familiarity with business practice and business details. The question has developed into a concrete argument as to the value of theoretical training versus apprenticeship training, supported in the first part by the professor, in the second part by the practitioner with the student loud in favor of the second part.

The profession of landscape architecture is a technical profession, not an adjunct to, but coordinate, with

the profession of architecture. Professor Pray in a talk given recently before the Association of Landscape Architects, expressed the opinion that "the point of view of the landscape architect is the large one, which tends to emphasize the subordination of the materials used to the principles of their arrangement, making these materials—the ground, plants, and so on—all subserve the effect of the organized whole." In application, his words would imply that the requisite training for the profession should be fundamental and early drill in the arrangement and use of material rather than in the specification of material, training from the point of view of the artist rather than from the point of view of the builder.

All art is closely related. Professor Joe at the bootblack stand is not presumptuous in assuming the full title of authority. It is an art to shine shoes and to do it well. The bootmaker may study the proportion of the human foot quite as attentively as the sculptor. The designer of clothing is often the graduate of an art school The design of a paneled ceiling,a lady's breast pin, a terrace parterre may be astonishingly similar. The pattern might even be quite the same, involving merely a difference of material, the central motive varying from a fountain or sun-dial to a chandelier or a five carat diamond. Material is inconsequential from the standpoint of design and, to continue the parallelism, the landscape designer is differentiated from his fellow artists merely by the material he has chosen for his media of expression, in his case the material of the entire out-of-door world.

The same qualities that are demanded of the followers of art in general must be developed and vitalized in the landscape student. The course of instruction in landscape design seeks always therefore in the student inspiration of the enabling qualities of the artist. No unique personal endowments are necessary. The student often attempts to discover something unique and peculiar in the work. The student about to decide whether or not to take the landscape course is the most peculiar thing about the course. His demands are the unusual. The freshman thinks to see not what courses of instruction are offered, but actual samples of each.

In compliance of this demand, illustrations from the student work of several of the courses are contributed with this article (see following pages). Like Mark Twain punctuation, they bear slight reference to the text. A justification for their insertion, however, may be advanced in that the drawings may show how precisely the problems are chosen with reference to actual field conditions and requirements.

There are three general qualifications for a successful landscape architect, namely:

Aesthetic Taste
Creative Ability
Executive Skill

Aesthetic Taste is a sort of delusive quality hard to define. It is closely associated with good breeding, if not actually in-bred. The Greeks were an æsthetic people in that they expressed a uniform appreciation of the beautiful. It seems implausible that a man may possess a keen æsthetic sense and not exhibit it to some extent in agreeable personal appearance. To be sure, the art galleries of Europe teem with velvet-coated unkempt looking individuals engaged in "manufacturing" pictures. With souls burning with æsthetic splendor, their persons present material for the caricaturist. This may be due possibly to overconcentration or to a mistaken premise in first entering the profession. An artist may become so absorbed in his chosen work as to neglect all attention to personal appearance The student, however, entering college with unburdened mind, has no mitigating excuse of over-concentration; too frequently the crudities of his dress indicate the probable limitations of his artistic ability. The student is never observed for the comparative expense of his wearing apparel, but in the design of the pattern and in the

choice of color, the student ofttimes places himself on record as quite devoid, in the beginning, of artistic sense. Good taste may be developed but it can not be inculcated.

Creative ability is latent in the soul of every man. From little brother Tommie, that starts in the whittling art at the age of six and at ten constructs a navigable kite, up to father, that desires at sixty to build an ideal bungalow minus architects' plans, the inward longing to create exhibits itself. Creative ability is not a quality that must be developed but a terrible potential force that must be controlled. Perhaps one-third of all the work of the landscape architect is concerned with re-organizing the creations of the amateur, or in over-ruling the creative suggestions of the client who has sufficient inspiration but lacks the refining influence of æstheticism.

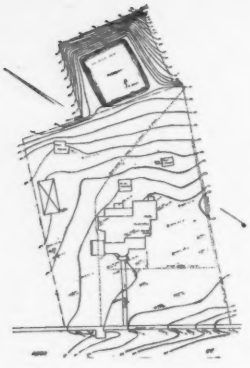
Aesthetic feeling is a potential power; creative ability is an active agent. Aesthetic feeling is a value of impression; creative ability is an energy of expression. From the educational standpoint, the influence of instruction must, therefore, be directed toward the development between the two of an equitable relationship. Professional training, must bring these two given forces into perfect working adjustment, so that the impulse shall never transcend the art.

The third qualification for an aspiring landscape architect is the one of executive skill. Executive skill signifies the ability to carry into reality the definite, outlined specifications of the designer. If the ambitious student is to be kept from premature venture into the field of independent practice, it must surely be by postponing the development of this skill until such time as his fundamental training is completed. The old Olmstedian system of apprenticeship developed in office boys an ability to execute landscape work of considerable intricacy, but it failed to develop the ability to consider problems from the standpoint of design. Executive skill unsupported by or minus artistic creative ability, is but the skill of the contractor.

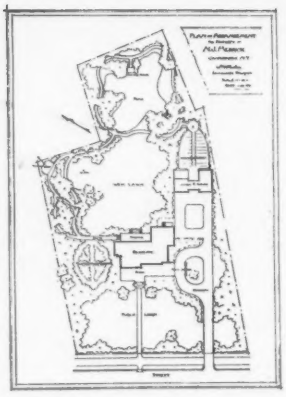
The recent agitation proposing an alternation of office-training periods with college term curriculum is questionable in practice, in that it shortens the student's college training just fifty per cent. A graduate of a four year course finds himself nominally fitted for immediate independent practice. Subtracting from the four years college course the time he has devoted to the required studies prerequisite to his professional courses, and subtracting the large portion of time allotted to apprenticeship work, just what proportion of the four years has been devoted to theoretical, rudimentary training?

Would it not be better to ask the practising landscape architect to open his office to the college man for apprenticeship work after graduation? Let the business man train up his assistants as he may deem advisable, starting with a graduate of refined and educated taste rather than developing up a boy that may never possess more than a scant smattering of the sound principles that underlie all artistic work.

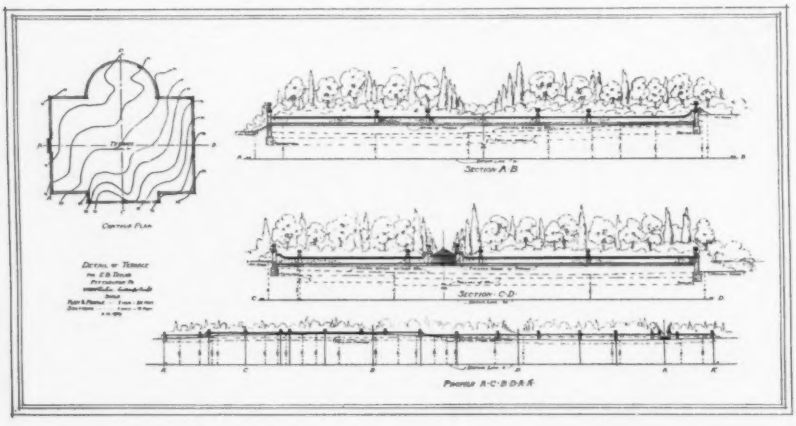
Familiarity with office routine and executive methods and executive detail may be acquired with equal rapidity and equal advantage after an adequate theoretical training, and thus by advisedly postponing executive training until after graduation, a twofold object may be accomplished: students in Landscape Architecture may receive sufficient technical training in college to be enabled with one or two years supplementary office service to fit themselves for professional practice; and secondly, what is of greater educational significance, courses in Landscape Architecture may be recognized as component with any college curriculum, not as offering specific, professional, narrowly technical training, but as being closely allied with broadly humanitarian ideals and thereby offering to the college student interesting work along lines leading to liberal and cultural accomplishment.



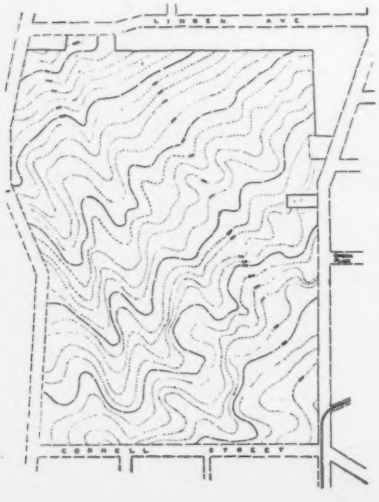
The problem is the designing of a small, suburban property. Survey of existing conditions is shown together with plan of proposed improvement. Particular interest is attached to the landscape treatment suggested for the old reservoir.



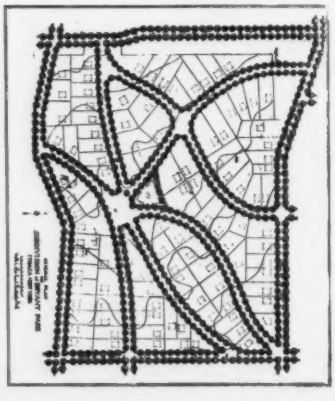
Problem in landscape Engineering—Plan shows detailed information for grading and wall construction.

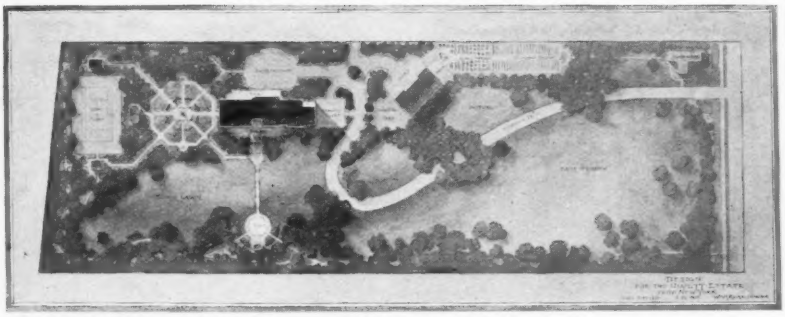


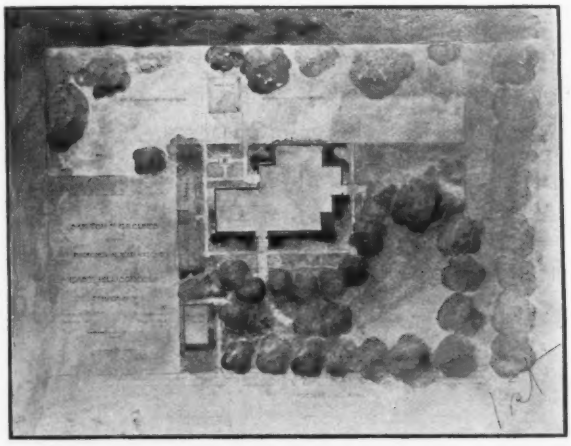
Survey of Existing Conditions submitted to students.



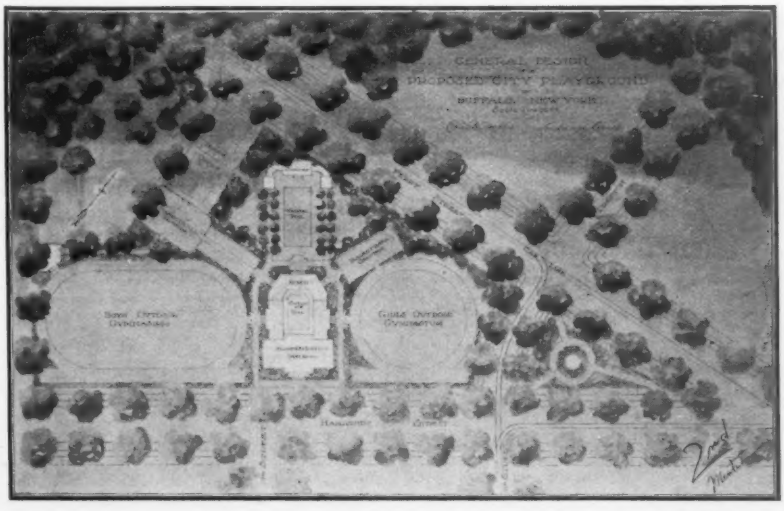
Suggested subdivisions, showing road lines, direct, pleasing in curve, practical in construction.







Junior Problems in Landscape Design



LANDSCAPE ARCHITECTURE FROM THE POINT OF VIEW OF AN UNDERGRADUATE

By Elizabeth Leonard, '10

Nearly everyone whom I consulted in regard to taking landscape work advised me not to do it—or at least they did not encourage me. Now that I have nearly completed the course I am convinced that they knew a good thing and wanted to keep it for themselves.

I was once consulted in perfect good faith by a venerable spinster as to the advisability of a certain friend of hers, who was a widow, coming to Cornell to take Landscape Gardening. It seems that the person in question had nothing to do but spend her money and as she was "fond of plants and flowers" she thought she would like our course. I felt like telling her that perhaps if she was fond of pets she might enjoy a course in Vertebrate Zoology. I refrained, however, and tried to give her an idea of the requirements and extent of the work here.

I find that the majority of people have no idea of what Landscape Gardening really is. I used to be asked so many times what work I was taking here and so often had to elucidate at great length upon what it really was, that I used to say modestly I was taking "Ag." or even "drawing" or "science." Having become hardened, now I say boldly, "Landscape Architecture." This is usually impressive enough to silence the curious. My purpose in writing this article is to answer the many questions which I have been so constantly asked by people unfamiliar with the work.

As in everything else, one should first have a liking for the subject. *A strong constitution and good health are of prime importance* inasmuch as the actual work is usually widely scattered and as one will be obliged to knock about the country more or less. A lot of perseverance and initiative is also necessary; more so, I think, than in any other course of study. As to the things we ought to know, it makes one gasp to think of it all.

The work is divided primarily into three branches; the artistic side, the engineering and the planting. The first of these is the most important. This comprises as its main subject design, which deals with problems of civic improvement, the planning of parks, cemetaries and exposition grounds, country estates, home grounds, and everything which one would be likely to encounter in actual practice. Incidental to design are architectural drawing, (including shades and shadows, and perspective), history of architecture, water-color, lettering, pen and ink drawing, out of door sketching, and everything which would tend to develop the artistic and æsthetic sense.

In the engineering work, we have surveying, problems of grading, laying out of roads and walks, profiling, sectioning, estimates of cut and fill, and all the practical construction details of the work. We are advised also to take the course in greenhouse construction and one in municipal engineering. The latter deals with paving, sewer design and disposal, and problems of city planning.

The a b c's of Landscape Gardening are, of course, planting and horticulture. Do not let me give the impression that because you may know plants you are or ever may be a successful landscape architect. Nothing is farther from my intention or farther from the requirements of the profession. It is taken for granted that you know plants. It is not especially to your credit, however, that you do know them, though a distinct handicap if you do not. Landscape Gardening is concerned with the arrangement and composition of plant material. The planting material bears the same relation to the well designed plantation as the wood or brick material may

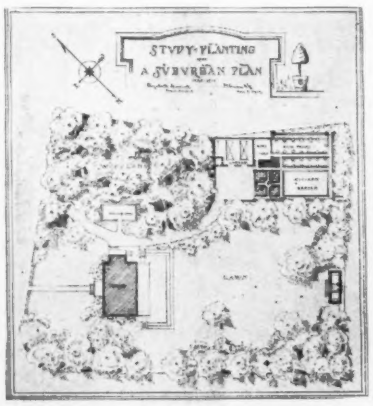
bear to a house. This is a point which I wish to make especially clear. So many people say that because their Willie likes plants so much he should certainly be a landscape gardener.

Stenography is a good thing to know, that you may be of some use in the office in one point at least, when you start in. I was told this by a landscape architect.

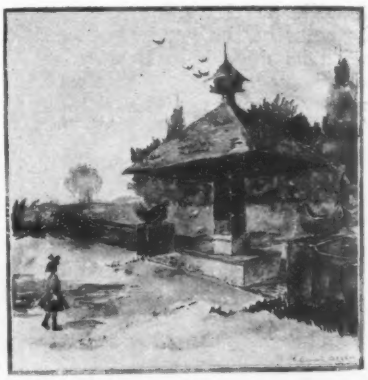
A certain amount of foreign travel is always recommended before one's education in landscape is in any sense completed. In regard to this of course I do not know at present but it seems highly probable that much of the inspiration for the work in this country is derived from the splendid examples of gardens found in the Old World.

As to your opportunities after graduation, do not expect to get rich right away. The course does not aim to fit a person for immediate practice. For the first year or two you will probably only pay expenses but I am told that after one has shown marked progress, he is able to command a salary. What you earn when you are working independently will depend upon your individual ability.

When you begin the course you may perhaps expect to know something at the end of your four years. When you finish you will find that you are just ready to begin to learn. Do not expect to go home and hang out your shingle and wait for clients. You will have to go into an office and work hard and long before you will reach that goal. Indeed, some of us will never arrive at that point, I think. Some do not make good at all, others degenerate into mere draughtsmen or superintendents. It all depends on your innate ability, preparation in college, and your supplementary training and adaptability in an office. If you have any idea of entering upon a pleasant occupation which will take you out among the flowers, I say—, "*Don't.*" When you have stooped over the draughting board for innumerable nights and tramped day after day over the country on all sorts of surveying and observation tours, have turned your hair gray wondering how you can possibly get in all that is in the schedule and the many more things you want and feel you ought to take, but which have been omitted from the schedule for lack of possible hours, you will realize that the life of the prospective landscape architect is no roseate one, and that you are preparing for a profession fascinating to be sure and possibly lucrative, but one in which success is dependent upon constant application and hard work.



PROBLEM IN PLANTING.



PROBLEM IN DESIGN.

THE ENGLISH LANDSCAPE DESIGNER

By Mr. Howard B. Grubb, '07

Faversham, Kent, England

IT is said of Madam Patti that when, in Western Australia, she sang to a camp-full of miners of the joys of "Home, Sweet Home," many an adventurer, hardened and calloused by long years of frontier life in his feverish scramble for gold, burst into tears, transported to the scenes of childhood, mother, and home amid the quiet English landscape.

It is inconceivable that an Englishman should write impartially regarding his country on any subject connected with landscape. An absence of two short weeks on the Continent is sufficient to set his pulses throbbing, as, on his return, the train slides among the peaceful park-like pastures where the blue smoke from nestling hamlet and homestead floats upward through the trees. No room here for the crimson-robed cardinals of the Medici or the stately courtiers of King Louis' Quatorze. The thin veneer of the Renaissance leaves little to choose between the Elizabethan Mansion and our homely Jacobean halls, while the soul of the English Yeoman recoils intuitively from the severity of an Imgo Jones. The climatic and sociologic peculiarities of our island kingdom have inevitably left their impress on every phase of our national art. Man, like the chamelion, soon assumes the color of the particular trunk on which he finds himself and unfortunate indeed is the nation which is unable to express in its handiwork the peculiar atmosphere of its national home.

The social status of landscape design in England is undoubtedly below that in America. The English public has still to be convinced of the necessity of the landscape designer, while his profession, left to the tender mercies of the nurseryman on the one hand and the architect on the other, struggles for a passage between Scylla and Charybdis. The average English client, when, as so seldom happens, he finds any of the money set aside for the garden left after the completion of his house, intrusts, without a qualm, the destinies of his surroundings, either to the nurseryman with his seed-bed-like "massed plantings" of costly conifers and his billowy hummocks of rocks and earth packed half-full of invisible alpines, or to the architect who, with all his ignorance of shrubs and plants, undoubtedly leaves the premises with a garden suited, in the main to the house he has designed.

Amid all the turmoil, the Landscape Designer holds his own, and although the profession is only just emerging from the smoke of the battle-field about which the two armed camps of formality and freedom have ranged themselves, the standard of the real English garden has been upheld by those who were able to allow themselves to be influenced in their design by requirements of the site alone rather than by foregone conclusions. These are the men who have made a plea for reason, law, and order. "There is no such thing," said they, "as a free curve. Every line must obey the forces which produce it. It is not enough to let the pencil follow the dictation of hand and eye, it must be followed in turn by reason, conviction and will." By this means alone has that sense of orderliness, that definite meeting of certain specified needs been attained which is, and has been the characteristic expression of the best of our English gardens. By this means alone can a garden receive that indefinable atmosphere which calls forth from some deep hidden cranny of the soul a responding thrill to the tangible expression of another mind.

This is no place to take sides in the long controversy to which I have already referred. Be it far from me to attempt the excavation of those vast mounds of debatable material which cover the foundations one

would lay bare before attempting the raison d'etre of the English garden as one would have it. There it is as seen by the designer in his best moments when, undisturbed by all the weary pettiness and perversity of an incredulous clientelle, he builds in rapture, from the inner consciousness of his soul, his pleasure house of design with its paved courts, its parapets and its stately steps leading to level lawns from which must open up long vistas flanked with colour, backed by the luscious foliage of the yew. This is the real English garden, to me the most beautiful in the world. As an American writer has said, "With English architecture the chief interest centres about the simpler work, the homely quality of which directly appeals to one; so the smaller and less pretentious English gardens seem in every way most perfect. There, one finds no question of the rival claims of formal and informal schools, of Italian French, or English styles, but merely a natural common sense adaptation of means to an end, a direct meeting of needs. In the great Italian and French gardens one feels the presence of a complete and studied scheme, and also of a conscious effort for effect. As exponents of the art and science of Land-scape Gardening, French and Italian examples are distinctly superior to the English; but for mere lovable beauty, fitting to the needs of true country lovers, nothing can approach the English garden. The thoroughness of the English garden is the very root of its charm. The garden, whether large or small, shows care in every part, and not only care but generally the loving care of the man who is really fond of his garden as a whole and of his plants individually. One cannot go through a garden without feeling that to them the garden is as intimate as the house."

The citizen of Munich takes you by the arm and points with pride to his "Englischen Garten" while the modest Frenchman standing before the result of his monumental efforts apologizes for this "quelque petite chose" with deprecating waves of his expressive hands. The Englishman's home is unique, the pride of its owner and the envy of its visitors. So unique is it, that the Britisher, intent on preserving, at all hazards, his home as a separate unit, and unable to keep pale in his ideas with the changes brought about by his removal from country to city life, has, in these latter days, covered our suburban hillside with a motley sprinkling of respectable, self-sufficing villas, each surrounded by its respectable grounds, a unit in itself, disclaiming all connection with its neighbors in design, fellow-feeling, or cooperation. This, however, is only a stage, and town-planning is a new word in England. But the time is coming, as visitors to our new garden cities will agree, when the landscape designer of England shall be celebrated not only for his masterly arrangement of the surroundings of the individual family dwelling,but also for that larger call on his powers, the grouping and unification into one orderly, artistic, and complete whole of the numerous and varying units required by that larger community which we call a town.

"I do hold it, in the Royal Ordering of Gardens, there ought to be Gardens for all Months of the Year in which, severally, things of Beauty may then be in season."

LANDSCAPE ARCHITECTURE FROM THE STANDPOINT OF THE NURSERYMAN

By Chas. F. Boehler, '09

THE Landscape Department is a very necessary adjunct to the complete organization of a nursery company, especially with respect to the disposition of nursery stock.

The work of the Landscape Department is essentially contracting, in which it differs materially from that of the professional Landscape Architect. *The profit is made on the stock supplied rather than on the work of designing.* In fact there is but little money in drawing plans to sell outright; it is more profitable to work with the idea of selling stock in view. Where the plans are sold without the stock the work approaches that of the professional Landscape Architect, and it will be necessary to get the public in a different frame of mind in order to get fair prices for the plans and such superintendence as would be necessary.

When stock is supplied, therefore, planting plans should be made free of charge or the charges in connection with them should be very moderate.

Residences are constantly being built in the suburbs by business men of moderate means, who desire as much as possible to be made of their property without the expenditure of too great an amount of money. Most of these are too small to employ a professional landscape architect, but still of sufficient importance to warrant the employment of artistic methods of treatment. These are the problems that the Landscape Department of the nursery company can handle to best advantage.

A boundary survey with the ground floor plan of the house is the usual basis of the plans. Terraces and existing tree growth, walks, roads, etc., can be located accurately enough by pacing. With these details and such other information as may be had from a personal visit, a suitable planting plan can be worked up in the office.

A neat and sketchy plan, even though it be simple, with a definite figure for carrying it out is sure to have great weight with the client and will usually inspire confidence and secure the order where an agent attempting to sell much less stock would not be listened to.

It is more economical to the client to have one firm do all the work involved in the out-door improvement and it is a great advantage to the Landscape Department to be able to handle such work as grading, road-making, wall construction, etc. By being able to do this work, the Designer not only has the whole treatment under his own control but also comes in contact with more planting jobs.

The work of the Landscape Department may be placed in three general divisions:

1. Getting the business. This of course, becomes easier as the firm gets a reputation for good work. At first, however, judicious soliciting and advertising are essential.

2. Making Plans. This includes making the necessary surveys and working up the plans in the office. It is also necessary to be able to make grading plans, details and specifications for walls, pergolas, roads, arbors, etc.

3. The actual carrying out of the work. The success of any Landscape Design depends to a large extent on the ability of the Architect to carry it out and the methods employed in the planting.

Other branches of the work of the Landscape Department which admit of great development are caring for the grounds by practical gardeners, pruning, and big-tree moving.

That the outlook for this line of work is bright, is hardly questionable.

Success hinges on organization, fair prices and good work. At first it is to be expected that results will not be great but the work is at hand and once a good reputation is established, and the confidence of the people is gained the demand for such work is sure to be great.

Comment by the Rural Art Dept.

The argument presented in the above article, is too widespread and recurrent at the present time to pass over without comment.

Landscape design from the nursery standpoint is too often a means rather than an end—a means to promote "the disposition of nursery stock." "The profit is made on the stock supplied rather than on the work of designing." The more stock sold, the greater the profit; *a bas* with design and good taste!

Landscape design is comparable with architectural design in that its recognition should in no sense be influenced by materials used.

Shades of Bacon, that plans should be drawn to inspire large orders, to influence clients to build largely rather than well!

"It is more economical to the client to have one firm (the controller of materials) do all the work involved in outdoor improvement." Should the lumber and brick merchant absorb the building contractor, or carrying the idea to similar extreme, should the lumber merchant establish a department of architecture?

The writer of the above article unintentionally but happily has arranged the three divisions of work of the Landscape Department of the nursery firm in the correct order of commercial valuation, of which the "getting the business" is of first importance and the execution of the design of relative third-rate concern. With the professional Landscape Designer, achieved ideals of good taste and successful expression of the beautiful will often accomplish success.

THE C. W. STUART & CO. FELLOWSHIP

By H. H. Whetzel

Professor of Plant Pathology

V. P. STEWART

FOR several years the writer has been interested in the control of fire blight in nursery stock. The disease is frequently very destructive as witness the epidemic in the nurseries about Dansville, N. Y., during 1908. Of the sixty nurserymen scarcely one escaped serious losses from this disease. In many cases entire blocks of apples, pears and quinces were completely wiped out.

In one of the nurseries of C. W. Stuart & Co., of Newark, N. Y., this disease has for some years taken a heavy toll of trees. The company, having had some success in fighting this disease, by methods recommended by the writer, arranged for a more thorough test last season by letting us put a man on the ground who made it his sole business to fight the blight.

The results of the past season were so satisfactory that the company has now arranged to continue the investigation and demonstration of the control of this disease by establishing at the College of Agriculture a temporary Industrial Fellowship for that purpose. This fellowship is known as the C. W. Stuart & Co. Fellowship. It is to

extend over a period of two years and provides the necessary salary and maintenance for carrying out the investigations planned. The Fellowship calls, not only for investigations of the fire blight, but also of other nursery diseases. It is hoped that the results may be of such benefit to the nurserymen that the work may be continued for several years until a thoroughly practical study can be made of the more common diseases of nursery stock. The results of such an investigation will be of value not only to the nurserymen throughout the State but to the purchasers of nursery trees as well, since such an investigation will eventually result, not only in increased profits to the nurserymen, but also in the eradication or control of such diseases of fruit trees as originate in the nurseries.

By the terms of this Fellowship, the College of Agriculture is left wholly free to appoint the man who will do the investigating. The College is also at liberty to publish any or all results of this investigation as it see fit from time to time. Mr. V. B. Stewart, a graduate of Wabash College, A.B., '09, has been appointed to this fellowship. Mr. Stewart brings to his work a thorough training in the fundamental subjects, particularly botany and chemistry. He devoted a considerable part of his senior year to the study of fire blight and was the man who, last summer, successfully handled the blight in the nurseries of the donors of this fellowship.

The establishment of this fellowship marks the culmination of a type of financial co-operation with the department of Plant Pathology which has been arranged by growers of different crops throughout the State for several years. For the past two or three years the bean disease investigations have been largely supported by the Burt Olney Canning Co., growers of canner's beans at Oneida, N. Y. One of the largest growers of Gladioli in the State has also contributed much toward the study of the disease of that ornamental. The investigation of ginseng diseases has been supported for several years to a considerable extent by the growers, who last year, raised a special fund of two hundred dollars for prosecuting the work. The fire blight in pear orchards was also supported, during last season to a very considerable extent, by Mr. Ira Pease, of Oswego, N. Y. The investigation of fire blight in nursery stock, which was supported by C. W. Stuart & Co., last year appeared to them worthy of their continued support in the form of the Fellowship above outlined. The problems of Plant Pathology, in the State of New York, have now become so numerous that it is impossible with the appropriations at our disposal to properly undertake the investigation of all of them. The writer believes that with the financial support of the growers and commercial manufacturers of fungicides provided in the form of fellowships, such as that of the C. W. Stuart & Co. Fellowship described in this article, the problems may be most effectively and promptly solved. A large number of well trained men may thus be kept constantly on the job. Funds from the State, for this purpose can be made at least doubly efficient and the interest of those for whom the investigation is being carried out can be most earnestly enlisted. It is certainly true that where a man's money is, there will be his interest also. More than this, the problems of most importance, that is those most affecting the financial returns of the growers, will, by this means, be singled out for prompt investigation. The state should certainly be able to provide the necessary laboratory room and equipments for meeting such co-operative propositions of this sort as may be made by growers or manufacturers of commercial fungicides, and the free publications of all results obtained by the College cannot be other than most beneficial to the growers of crops throughout the State.

TUBERCLE BACILLI IN A CITY'S MILK SUPPLY

By Dr. Geo M. Goler

Health Officer, Rochester, N. Y.

THE object of this paper is to present a simple plan for the examination of a city's milk supply to determine its measurable infection or freedom from infection with tubercle bacilli. The reason for determining the presence or absence of tubercle bacilli from the market milk of cities is not altogether that the supply of market milk be drawn from herds free from the power of transmitting tubercular infection to other cattle, and thus continuing the existence of tuberculous herds; but that we may also be reasonably sure that the tubercle bacillus may not be carried to milk, and thus act as an infective agent in causing tuberculosis among our children.

For whatever part we may take in the controversy concerning the infective power of the bacillus of bovine tuberculosis for men and women, we cannot cast aside the experimental proof of such observers as Schrœder, W. H. Park, Hess and Theobald Smith, whose work goes far toward proving that milk infected with the bovine type of the tubercle bacillus is a factor in causing tuberculosis in infants. W. H. Park shows as a result of 67 autopsies in infants dying of tuberculosis that in 23 % the bovine type of the tubercle bacillus was recovered. It having been proven that the bovine type of the tubercle bacillus does cause disease and death in children, what are we as sanitarians to do in the matter? It is not sufficient that we devote our attention to establishing and conducting sanatoria, day and night camps, schools and classes, and preaching the doctrine of open air, rest and all the other means for the treatment of consumption that modern curative medicine has developed in the last few years. What does it matter even if we preach and work against city congestion, the bad sanitation of a city, induced by bad street car service, high street car fares, and the high rents which compel congestion in the tenement and in the block? We may talk and work against bad municipal housekeeping, smoke, dust, impure air and water, bad school hygiene, impure food, and all that goes to make municipal life less worth living, but if we still permit direct tubercular infection to take place through the ingestion of infected milk, our work is done merely in part. The municipality that permits milk infected with the tubercle bacillus to be fed to its children, does not provide that protection which it is bounden to give them. It is not only that the city loses those who die, but it suffers through those whose resistance is sufficient to enable them to live, and thus become less efficient members of society. *It is not the dead, but the half dead, who are a menace to society.* The city that neglects to protect its children against milk infection with the tubercle bacillus aids the men who furnished this milk in continuing the life of infected herds and delays the day when the measurably infected herd shall be stamped out. The dairyman who holds even one infected cow in his herd, not only maintains a menace to the health of the municipality to whom he furnishes milk, but is feeding an animal whose milk producing capacity, if not diminished immediately, is ultimately lowered because of her shortened life. The tuberculous cow is therefore a loss to her owner, and a menace to the health and lives of the children of the State. Hence the vital reasons for an effective examination of the city's milk supply.

The plan which follows for determining the condition of the milk supply of a city is based upon the work of Anderson of Washington. It differs from it only slightly in detail, and is so arranged that it may be carried out by even the smaller municipalities, or where men, familiar with all the de-

tails of modern laboratory technique, may not be obtained.

In our work samples of one pint each are collected from the retailer in original packages and numbered serially. Fifty c.c. of the milk is mixed with 50 c. c. of sterile distilled water, put in a conical glass and centrifuged for an hour at two thousand revolutions per minute. The glass containing the sample of milk is taken from the centrifuge and a sterile platinum dish is used to remove the layer of cream together with enough of the top milk to make it sufficiently fluid to pass through a good sized hypodermic needle. Five c. c. of the mixture is injected beneath the skin in the groin of one guinea pig; then all but 5 c. c. of the remainder of the milk is decanted from the glass, the sediment well stirred with a sterile platinum loop, and the 5 c. c. sediment mixture injected into a second pig. A similar procedure is carried out at the same time with other samples; the injected animals are then charted according to color and markings and confined in open pens, four to eight in each pen. At the end of four weeks they are examined for enlarged inguinal glands and any other changes that may be present. At the end of six weeks they are killed, subjected to autopsy, and the macroscopical condition of the glands and viscera noted and recorded. Before working up the samples of milk, each specimen is chemically examined and "counted," the animals having died of acute infection before the six weeks are up (amounting to 7% thus far in our cases), are replaced by other animals subjected to like treatment from samples obtained from the same dealer.

When an animal shows by autopsy the well marked lesions of tuberculosis, then smears are made and the presence of the tubercle bacillus proven absolutely. The retail dealer from whom the milk was taken is asked to come to the Health Office, where the name of his producer or producers have already been obtained from the records. He is shown the animal and the lesions; and the manner of their production is explained to him, and he is told that one week will be given him to have the herds, from which he obtains milk, tuberculin tested; otherwise the milk will be excluded from the city. He is further told that he may go with the milk inspector, who will take the preserved viscera and show them to his producer. If the retailer agrees to go with the milk inspector to visit his producer, well and good; if not, the inspector goes alone to the producer, shows him the specimens from the infected guinea pigs and explains the necessity for having his herd tuberculin tested. If the producer agrees to have his herd tested, a form is given him from the State Department of Agriculture, which he is asked to sign. If he does not agree to have his herd tested, the Department is notified. The State Department of Agriculture agrees to test the herd, pay 80% of the appraised value of the animals that react and show localized lesions, 50% of the value of those with marked and more general infection. The test under the New York State law is made by a State veterinarian, and is without cost to the owner. This has been our plan—has it brought results?

Since January, 1909, 50% of the retail dealers in Rochester have had their milk subjected to the physiological test by having guinea pigs injected with it. Out of eighty retailers whose milk has been tested, samples from five of them, selling approximately 2000 quarts of milk from six producers having a hundred and eighty cows, have shown in the reacting animals marked naked eye evidences of tuberculosis. Of these producers, two, owning ten and fourteen cows respectively, refused the test, and their milk was excluded from the city. Four other producers, owning one hundred and fifty-six cows, had their herds tested, and seventy of the cows reacted; twenty-seven of them had the disease disseminated, and their bodies were tanked for phosphate.

The City of Rochester has a population of more than 200,000 people. Approximately eighty thousand quarts

of milk are used daily. On a rough physiological test of slightly less than half the market milk, 2000 quarts or 5% of the output is found infected, and this by using a test that depends only upon lesions that are apparent to the naked eye. If the microscopical lesions had been determined and used to exact the tuberculin test from the retailer and producer, or if the animals had been allowed to live longer, or the infection of the guinea pigs had been determined by the injection of tuberculin as advised by Anderson, a much larger number of reacting animals,and therefore, more infected herds would have been found. But one of the important points in our application of this test in the preliminary work is that we present only naked eye evidences of tuberculosis to the retailer and to the producer that they can understand. Men engaged in the sale and production of milk are sufficiently well acquainted with the appearance of the viscera of animals in health to be able to note such marked departures from health as are shown in the bodies of guinea pigs when markedly affected by tuberculosis. The exhibition of such animals convinces the milkman every time. Microscopical evidences of the disease, no matter how plain to those conversant with laboratory technique, are not at present sufficient proof for the milk dealer or producer. When we have weeded out the markedly tuberculous animals from the herds that give early and naked eye evidences of tuberculosis, we may then attack the other end of the problem.

Another important point in this work as done by us is this: We hold the retailer responsible for the freedom of his milk from tubercular infection. If he buys milk that is infected, we give him a few days in which to see that his producer has his herd tested. If the herds are not tested, we exclude the milk from the city, and notify the Department of Agriculture. This is a simple plan by which any city may provide for the application of the tuberculin test to the cattle that supply it with milk.

Already as a result of this work notices have been sent to the State Department of Agriculture for the application of the tuberculin test to a number of herds which have not been shown to be tuberculous by our test. The farmer has been thus stimulated to apply for the tuberculin test himself. He sees the importance of saving his herd. We see the value of keeping our children from such tuberculous infection. May not the farmer and city official well join in the work?

LINES ON A SEAT AT THE END OF A LONG, STRAIGHT WALK

Inscribed to Burke, whose comprehensive mind
The true *Sublime* and *Beautiful* defin'd,
This walk an emblem of himself portrays,
Who scorning knave's, or Fashion's crooked ways,
The fair, straight, forward path of Honor trod,
Leading, through Virtue's course, to Virtue's God.

Humphry Repton, Esq., [1804].

THE THIRD ANNUAL FRUIT EXHIBIT

By D. G. Woolf, '12

On Monday, November 1, the College of Agriculture began to assume a holiday attire. Busy committeemen were seen standing in perilous positions on the top-steps of ladders decking the halls, auditorium, and horticultural rooms with red and white bunting. There was a reason. The Fruit Show was coming—the third annual Fruit Show. By Tuesday night everything was in readiness and on Wednesday morning the exhibit was thrown open to the public.

Before taking up the show itself, it seems fitting to tell about the all-important event, the central occasion of the exhibit, the regular Assembly meeting which took place Thursday evening, November 4. This affair clearly demonstrated the great interest manifested in the Fruit Show not only by the students in this college but also by those in the other colleges of the University. Every seat in the Auditorium was taken while people stood up in the galleries. In this connection it might be observed that beside the 3000 and some visitors, even the trustees of the University attended the exhibit, coming on Saturday night and testing to their own enjoyment many varieties of fruits. The meeting was opened by the singing of the Alma Mater, after which the Glee Club and Mandolin Club rendered several selections. These were followed by some very enjoyable vocal music by Miss Blackman accompanied by Miss Nye at the piano. Then Acting Dean Webber gave a talk to the students, opening his remarks with a discussion of several current topics relating to the College of Agriculture, such as the provision for a trophy

GENERAL VIEW.

Note pears on either end of center table with grapes between. Nut exhibit on right; long table in background contains comparative state exhibit.

COMPARISON OF NEW YORK AND WASHINGTON STATE APPLES.
Allowance should be made for perspective.

room, the alarming growth of the college, and the coming of the shorthorns. The latter part of his talk he devoted to the Fruit Exhibit. He traced the origin of horticultural societies, laying emphasis on the educational advantages resulting from their formation. Demonstrating his remarks with types of apples, he showed the effect of environment on the same fruit,—for example the difference in shape, size and color in one type of apple growing in New York from one of the same variety growing out west. He deplored the fact that today people are going westward where irrigation is necessary and water is at a premium. By logical reasoning, he showed that our own state where rainfall is abundant is the best place for the farmer. After the singing of the Evening Song, the visitors turned their attention to the refreshment tables and the exhibit rooms. It was a gay crowd that tried to wedge their way through the halls and they were well repaid when they at last reached the show.

The main room presented a dazzling but beautiful appearance. The fruit, arranged on plates, was distributed on tables around the room, each county in New York State and each one of the other states which contributed—Col., Penn., Utah, Ohio, Washington, Montana and New Hampshire—being given a section of a table. In the center of these tables were red, white and yellow roses, while green plants, banked in one corner, contrasted prettily with the prevailing Cornell colors, which were prevalent in the streamers of bunting stretched from wall to wall.

The feature in which the visitors were naturally most interested was the collection of varieties of apples. But of great educational value was the exhibit of pears, consisting of forty-six plates and twelve varieties, grown by Mr. Bell of Rochester. A portion of these were picked at intervals of five weeks and the increase in size due to the late growth was very noticeable, the late ones being twice as large as the others. Ellwanger and Barry, also of Rochester, had a fine collection of pears, consisting of forty-two varieties.

There were to be seen great trays of grapes, contrasting with each other in color, which had been picked in various places from New York State across the continent to California. There was also an exhibit of persimmons and figs from New Hampton, Va., and a collection of nuts which were shown as a result of a contest by the boys and girls of rural schools and clubs. In fact every kind of fruit was in evidence except the "gooseberry as large as a hen's egg," which Dr. Webber so graphically described.

But not only were the green fruits to be seen. The display of jellies, preserves, jams, and other fruit products was well worthy of attention. To appeal to the epicurean taste, a table was devoted to the exhibition of dainty dishes which can be produced from our common fruits. No one dared to look too long at the dish of apple-snow which was there to tempt the visitor.

In connection with the fruits, it is interesting to note the relative number of premiums awarded to the counties of New York State. Our state was easily in the lead and received the first premium as an exhibit. Pennsylvania and Ohio finished second and third respectively. We cannot help but pride ourselves on the fact that our own state could not be eclipsed by any of the others. In the order following, Monroe, Tompkins and Niagara took the lead in the rivalry between the counties.

	1st	2d	3d
Monroe	15	9	4
Tompkins	5	10	5
Niagara	7	3	4
Wayne	0	5	2
Ontario	4	1	4
Fulton	5	0	0
Seneca	4	3	0
Orange	2	0	1
Columbia	1	1	2
Orleans	0	0	1
Dutchess	6	3	2

Of primary importance, it seems to us, was the exhibit of the Department of Plant Pathology. This showed well-marked examples of the many and common types of diseases which are attacking our fruit trees and eating such a large hole in the profits of the farmer. The most interesting feature was the application of Lime-Sulphur as a fungicide for apples. Three years ago it was first tried by men in Washington, D. C., and in the state of Oregon. Only a year ago the Department of Plant Pathology took up the work, and, although it is still in an experimental stage, obtained wonderful results. Application to a crop, reduced the injured fruit from 21% to 5%. Apples sprayed and unsprayed were shown and the marked advantages afforded the size and condition of the fruit by spraying could be noticed. There was also a comparison between those sprayed with Lime-Sulphur and those sprayed with Bordeaux, showing very decisively the superiority of the former. But there is yet much to learn about this remedy. There are two kinds of Lime-Sulphur—one of which is called "Self-Boiled." This is made by pouring sulphur into lime during the slaking of the latter, the heat from which operation boils the sulphur to suspension. The other kind is known as the "Commercial Lime-Sulphur" in which the sulphur is in complete solution. Both forms have their advantages and disadvantages and neither can be said to be decidedly preferable to the other. We believe that the farmers who saw the results accomplished at Cornell will try this on their own farms and that their experiences will greatly help in the development of the cure. There were also examples of other diseases such as Brown Rot of Peaches, Fire-Blight and Mildew of Tomatoes.

A report of the Fruit Exhibit would not be complete without mentioning the display of Chrysanthemums. It is not often that a collection of these beautiful flowers can be seen, and those people who were fortunate enough to see this exhibit before they began to wilt certainly enjoyed a great treat. The symmetry of the chrysanthemum combined with its attractive colors places it in a distinctive position among the flowers.

THE COMMITTEE.

Hitchcock Vincent Bradlee Lewis
Prof. C. S. Wilson Miss E. F. Genung Kelley

We hope that we have given enough to impress the reader with the fact that this exhibit was not merely to show off the fruits which had been contributed, and to award premiums to those which seemed best to the judges. It deals with the vital question which is ever present in the farmer's mind—"How can I improve my crop in appearance, in numbers, and in quality?" It is a question of supply and demand. It is a concerted attempt to help the farmer throw off the shackles of natural hindrances and conquer those diseases and insects which are encroaching on the food supply of the world. It is another illustration of the fact that Agriculture is the premier science in that it deals with living things and living questions, and in that the primary object of the teaching of it as a science is to help better the condition of mankind.

CARE OF THE EYES

[CONTINUED]

By Geo. M. Gould, M.D.

IX. CATARACTS

Besides growing stiff, or inelastic, more and more incapable of making us see to read and write, it is certain that as we grow older, the crystalline lens of the eye is likely to have another bad habit when we get along in the sixties and seventies. Suppose that glass, your window panes, for instance, after use a long time, should first get cloudy or as if "steamed," and finally become like "ground glass," whitish, so that you could not see anything whatever outside through them! Well, that is what happens to many old eyes; the crystalline lenses of the eyes also slowly lose their transparency, get discolored, whitish, opaque, like "ground glass," and although there is a good kodak-film—the retina—behind them, the picture has no form, becomes nothing but a confused blur, and finally one cannot see plainly enough even to walk about, much less to read and write. This disease of the crystalline lens was called "cataract" by the old-time people and their doctors because it seemed to them to be something falling down over "the sight." When cataract has grown somewhat "ripe" (an odd word to use of a waterfall!) you can see it in another person's eye. It looks grey, or whitish, behind "the pupil." A cataract is said to be ripe when the lens has become so hard or solid that when the eyeball is cut open, the lens may be squeezed out, entire, without leaving any part within the eye to obstruct the vision afterwards. This cutting the eyeball partly open and taking the cataractous lens out is called the operation of cataract extraction. After it has been done, one must wear real glass lenses outside the eyes, as spectacles, to make up for the loss of focussing-power of the lens that has been removed from within the eye. Sometimes the eyes of the young are cataractous, from wounds or blows, and sometimes from bodily disease, such as "Bright's Disease," but there are few such cases, most all cataracts being "senile," or due to old age, as they say.

Now the point of the whole matter is that this terrible affliction of old-age cataract is entirely unnecessary, and may be avoided. In fact a person of fifty-five or sixty years of age is not at all "old," or need not have had cataract if he had been sufficiently wise and prudent,—if he had been well advised. "Is this really true?" you ask! Yes, it is really true! Cataract may be surely prevented by scientific spectacles worn for a long time before the usual time of the coming on of cataracts. For cataract is caused by the injury and overwork of the eyes from "Eye-strain." You know a man may work so intensely, lift so much, endure so many hardships from twenty years on that he is really old and "used up" at forty. So it is that eyes which have been strained and overworked, because of farsightedness, astigmatism, or presbyopia, or by all three combined, have been so injured and damaged that the once clear crystalline lens loses its required nourishment and its transparency and becomes in a word cataractous. Avoid eyestrain and you will avoid cataract. I have never known a patient to have cataracts who had worn the glasses he needed long before the cataract age. But remember that, usually, correct glasses cannot be had without the use of "poison-drops," and it by no means follows that all glasses ordered by doctors even after using "poison-drops" are capable of relieving eye-strain or preventing cataract. After the cataracts have been produced so that vision is bad, no glasses will prevent their "ripening." When ripe, surgical operation is required to remove the cataracts, and make one see again.

X. THE SIZE AND SHAPE OF THE EYEBALL

You cannot understand how we see well or badly, except you keep in mind the idea of the kodak or the photographer's camera. The eyeball itself is like the box or case of the kodak; the crystalline lens and other near-by parts are like the lens of the kodak; the iris and pupil act exactly as does the diaphragm; and the retina is the film or sensitive plate on which the picture is made. The crystalline lens in the eye, as we have seen, is made thicker or thinner according as the object photographed is near or far away; in this respect it is better than the lens of the kodak which has to be moved nearer or farther from the film in order to get the right focus of the near or far object to be pictured. There are many superiorities of the eye over the kodak:—A new film for instance, has to be put in the kodak for every picture, but the same sensitive plate, the retina, lasts for a lifetime, and all the thousands and thousands of pictures made on it every day do not wear it out. This is because darkness resensitizes the retina every second, by winking, and by a dozen other mechanisms which shade or darken it.

We saw previously that the lens of the eye, by bulging or changing its shape, helps to focus the light from an object upon the retina and this makes a clear picture of the outside scene. But it is plain that all this depends upon the accurate and adapted size and shape of the eyeball. Kodaks and cameras and lenses and photographs are of many sizes according to needs of photographers. The power of focusing the waves of light depends upon the adapted size of the eyeball, which in grown persons is about an inch in diameter. If the diameter is greater it is evident that the focusing mechanism (the crystalline lens, etc.), as ordinarily and necessarily limited, would bring the picture to a focus in front of the retina; this actually happens, too often in life, producing what is called *Myopia*, or "near-sightedness." But if the diameter is too short it is as plain that the usual focusing device will make the proper definition or focus behind the retina; this occurs much more frequently than the too-long eyeball, and is called (or miscalled) "far-sightedness," or "hyperopia," or "hypermetropia." Now suppose that the front of the eyeball, the cornea or clear part in front of the iris and pupil, is not round, not equally curved in all parts, not like the butt end of an egg, but like the side of an egg, a shorter curve up and down, and a longer curve sideways—it is clear that the picture formed upon the retina will be distorted; the whole picture and all its parts will be "out of drawing," ovoid, and we would never see things as they really are. We would thus never act or move accurately, and every step and hand-action would be wrong and even dangerous. Then there would be no preservation of the body, no precision in placing the feet or hands, no flight or alighting of birds, no successful fightings, games, or work either of animal or man, if the eyes were too imperfect and vision too far from accurate. A majority of human eyes are thus too imperfect and, their vision too inaccurate. A defect so small as $\frac{1}{200}$ of an inch in the diameter of your eyes may endanger or even wreck your life. The oculists' failure in placing the axis of your astigmatism incorrectly by so little as five or ten degrees may cost you your happiness and health. The attempts of the brain to see and to carry on your life with such faulty eyes, or with such inaccurate spectacles as are usually worn, may produce the severest diseases and suffering both of body and of mind, and may even kill you. The oculist who does not realize this keenly, who is too careless or too blundering to make correct measurements of your eyeballs is unfit for his work and will do you injury instead of benefit.

The Cornell Countryman

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A. M. KRUSE
W. G. STEPHENSON - Associate Editors

T BRADLEE - - - Business Manager

C. F. RIBSAM
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DECEMBER, 1909

To the "Shorthorns"

In the first place, we welcome you. This college was instituted to fill an agricultural need; you are part of the expression of that need and we welcome you as students in their rightful places.

In the second place, we want to help you. We are as sincere in that desire as we are frank in the statement that you will need it. Your schedule of daily life, your work, studies, the people and methods will all be new to you; you are to be here but a little while; you cannot afford to lose any time; you will need suggestions; ask the other fellow and, by-the-way, get acquainted.

In the last place, we would warn you. You have a difficult task ahead of you for the next 3 months. It will be up to you to absorb the Cornell spirit (a task which takes some fellows a full four years to accomplish) for when you leave here you will be spoken of by your friends as Cornell men. Those of us who have done any extension work out through the state will recall numerous instances of "Cornell" men being presented and, come to find out, they were only shorthorns. We say *only* Shorthorns because *they* (the majority of them) had not acquired the spirit which we hope you will absorb.

It is a hard thing to classify such an elusive attribute as spirit. But we know positively that Cornell spirit means *push*: not an enthusiasm for every cause, worthy and otherwise, but a discriminating and concentrated zeal for every deserving motive. It also means an inclination to give rather than get, to help the other fellow, and above all to be a gentleman.

Unfortunate!

The Agricultural College and its students are continually running up against the unfortunnate fact that the work undertaken must be out of season. We must study cultural methods when the ground is under two feet of snow; we must study plant growth when vegetation is dormant; we must study insect pests and plant diseases not during the destructive period of their life history but when they are, if not dead, at least in a quiescent state.

And so the COUNTRYMAN finds it with its work. Agricultural interests are most vitally connected with plant and animal growth. It must keep hammering at those interests no matter if the trees have gone into winter quarters or the cows refuse to give milk.

In this way we find ourselves in a peculiar situation. We have undertaken a landscape number. We did this because we felt there was a demand for more widespread information on that subject. We have

devoted the December issue to it, simply because we had plans for every other issue. Hence the out-of-season cover. We hope it will attract but not confuse. Lest it may bewilder, we have spoken.

Acknowledgment The COUNTRYMAN desires to take this opportunity to thank the Rural Art Department for the suggestions, photos and help which have contributed so much to the success of this issue. It also desires to express its appreciation for the interest and backing the members of that Department have personally taken in the Landscape Number. Such a spirit is valued all the more highly because it must come by the free will of the giver, it can never be obtained by solicitation.

The COUNTRYMAN earnestly hopes that the artistic advance shown in this issue, and the knowledge that it is, in good part, the result of their interest, will be a partial reward to that Department for their endeavor.

A Contention There seems to be a difference of opinion as to whether a Nurseryman should also be a Landscape Architect or not. In accordance with this state of affairs we are publishing in this issue, not only a nurseryman's viewpoint, but also a reply (which we are told might have been a good deal hotter), from the landscape architect's standpoint.

As to the relative merits of the case the COUNTRYMAN takes no stand. We merely wish to give each party an ample opportunity to "scrap it out."

We believe that, if the parties representing opposite views on certain subjects can be induced to make their claims public, the COUNTRYMAN cannot better serve its constituency than by standing by and letting them "go at it." May the better side win!

We trust that other subjects, which are in dispute may be aired in this way, for if both sides of the question are presented, cannot the undeclared public more logically arrive at a definite personal conclusion concerning the disputes? And even the avowed supporters of either side, will they not become better acquainted with the arguments of their opponents, and thus become broader-minded?

New Members of the Board The COUNTRYMAN announces the recent election to its business staff of George M. Butler, '12, of New Haven, N. Y. and Wade E. Malcolm, '12, of Marion, N. Y.

GENERAL AGRICULTURAL NEWS

The Third Annual National Corn Exposition will be held in Omaha, Neb., on December 6 to 18.

The Exposition was started primarily as an Indian Corn Show and the first one adhered absolutely to this idea. Last year, however, the scope of the Exposition was broadened to include small grains and grasses. The Exposition also assumed a national aspect with live interests from Mexico and Canada.

This year the Exposition will be even broader. Corn of course will play the principal role. It will be exhibited in every possible form and from every section of the country again including Mexico and Canada. Prizes will again be awarded. A feature along this line will be the awarding of prizes to women and children in greater proportion than ever before.

Last year there were about 12 to 15 states represented, while this year about 30 states have promised to send attractive showings.

The Exposition is in charge of practically the same competent men that did so much to make it a success last year. Many individual experts have promised to be on hand. Among them being the California wizard Luther Burbank of Santa Rosa; Prof. W. J. Spillman, Prof. F. B. Mulford, Prof. James B. Rice, and many others.

* * *

This month will mark the completion of a new $75,000 Animal Husbandry building at the University of Wisconsin. This building was built with the definite plan of providing a place for large gatherings, for the handling of large classes, stock sales and shows, demonstrations, etc. It is far in advance of anything else of its kind, in this country at least.

The building encloses a space 200 by 114 feet. with a stock judging tanbark arena, 164 by 66 feet, occupying the central space. Around this arena are seats to the number of 3,000 afford ing room for a good-sized number of people. The entire structure is of reinforced concrete with brick exterior and a green glazed tile roof. In the basement are provisions for housing live stock, including 14 large box stalls, 22 hitching stalls and a large foaling stall for brood mares.

A clever arrangement is that of separating one end of the building from the rest by a tight door so that it may be isolated in case of an outbreak of disease among the animals. In this part of the building is also a large Veterinary operating room with a dispensary on the floor above. The basement is well supplied with windows and ventilated by the King System.

The floors are all of concrete overlaid with wooden pallets except in the arena which is tamped clay covered with tanbark. There are two exits for animals and five exits for the audience. The building is well lighted, skylights and large windows in the gables supplying light by day and numerous arc lights providing the same at night. Large dressing rooms are supplied the students. In the front wings of the building are the offices for the Farm Superintendent and Animal Husbandman; living quarters for the Veterinarian and other members of the department of horse breeding, as well as a large demonstration room for the use of classes.

The facilities for storing feed are especially convenient, seven large concrete bins being provided to hold grains and mixed feeds; a root cellar which holds several tons of roots and hay mows which will shelter over 60 tons of hay and bedding.

In order to handle several large classes of students at one time the Auditorium is provided with two large drop curtains which may be used to divide it into three class-rooms.

* * *

A soluble sacchorate of copper and lime, called Cucasa is coming into use in Europe in place of the more cumbersome Bordeaux Mixture. Cucasa yields a solution of copper that

has all the fungicidal properties of Bordeaux Mixture with the added advantages of affording a clear solution and of keeping a comparatively long time. Being a clear solution it does not clog the nozzle of sprays and much less of it is needed than of Bordeaux Mixture for efficient protection. A solution of Cucasa is uniformly alkaline; there can, therefore, be no copper sulphate present in it that would injure the foliage. When sprayed on trees, the thin layer of the solution is readily changed by the atmosphere, as in the case of Bordeaux to the insoluble film of copper compound that has the specific power of killing fungi. This film being thin has the advantage of interfering all the less with the important functions of the foliage. It also sticks very closely; in one case it was found adhering three months after spraying.

Cucasa consists of the proper proportions of copper sulphate, slaked lime, and cane sugar, being distinguished from other copper and sugar solutions by the proportions in which the constituents are present in order to produce a clear, alkaline, fungicidal solution. Its inventor is Dr. C. Rumm, of Stuttgart, Germany. It is put on the market ready for easy use, in packages to make a stated number of gallons of solution.

(Quoted.)

CAMPUS NOTES

The November Assembly was held Thursday evening, November 4th, and again the capacity of the auditorium was taxed to the utmost. The Annual Fruit Exhibit which was in session at this time was also open during the evening. The Glee Club started the program with Alma Mater and this was followed with a selection by the Mandolin Club. The playing of the Mandolin Club was undoubtedly the best ever heard from the College Mandolin Club and congratulations are due the leader, D. J. McInerney, '10, and the members of the Club. A most delightful vocal solo was rendered by Miss Blackman, a student in Ithaca High School, accompanied by Miss Nye. Miss Blackman has a voice of unusually pleasing qualities and her selection was most enthusiastically received. President Shepard in introducing Acting Dean Webber likened the Dean to the father of a large family. In opening Dean Webber said "I like the comparison of this Assembly to a large family party but my family tonight is somewhat larger than I am accustomed to. I guess by this time we have all found our places and settled down to work. I want to congratulate the students on their musical clubs, on the Fruit Show and their numerous other activities. These student activities are a vital part of our College life and also connect us with our later work. Our motto in this college should be "Good Will" and I want everybody to hold out the hand of welcome to the short-course men, who will soon be with us, and make their stay here just as profitable as it can possibly be made. These men form our constituency—let that be enthusiastic."

In speaking of the proposed trophy room Dean Webber said: "We have got to have a trophy room and will have one as soon as space can be found for it." The Dean's final figures on registration showed a grand total of 585 students and again he emphasized the fact that we have nearly reached our imits. "Before we can extend our capacity we must increase our facilities. This lies with the State, but it is the duty of every one of us to expaln our conditions to the people of the State."

"In the death of Senator McCarren the College has lost a true friend and one who realized the importance of agricultural training. He has been called a machine politician, but to his efforts, secured by no undue influence, was largely due the success of the Act, establishing the New York State College of Agriculture at Cornell University." Dr. Webber next spoke of the value of fruit shows and gave a little of their history. Then taking samples of fruit from the table in front of him he gave an exceedingly interesting

talk on apples, their evolution and improvement, relating also many interesting incidents in the evolution of some of our other fruits. The fact that New York fruit compares favorably with that from the West was strongly emphasized. In summing up the Dean said, "Let us all work together in pushing New York."

After another selection by the Mandolin Club followed by the Evening Song the program gave way to the customary social hour to which the Fruit Exhibit added much interest. Cider, doughnuts and apples were furnished in abundance.

* * *

The Agricultural Soccer team organized this fall with A. L. Rheingantz,'10, as captain and J. C. O. Laue as manager. At the close of the series C. E. stood first with Agriculture a very close second. The cup which was won by Sibley last year thus goes to Lincoln Hall. Following is a list of games played by the Agricultural team with the resulting scores:

		Ag.	Opp.
Agriculture	vs. C. E.	0	2
"	vs. Vet.	1	0
"	vs. Arch.	1	0
"	vs. Law	1	0
"	vs. Arts	2	0
"	vs. M. E.	0	0

It is interesting to note that in the only game lost the Agricultural team was represented by only six men against a full team from C. E.

* * *

A meeting of the Agricultural Association was held Tuesday evening, October 19th. The attendance was unusually good. Professor Craig gave an interesting talk, illustrated by lantern slides, on his tour through Europe. During the business meeting shingles were awarded to the members of the athletic teams of the College and to the members of the CORNELL COUNTRYMAN board. There was an enthusiastic discussion over the matter of having a trophy room and also a lunch room in this college, resulting in committees being appointed to investigate these subjects. Revision of some parts of the constitution of the Honor System was also discussed. After the business meeting Professor Rice gave one of his characteristic talks which never fail to arouse enthusiasm. He especially commended the idea of having a trophy room. The program was further enlightened by music from the musical clubs. Refreshments were enjoyed through the generosity of the senior class. As the result of this meeting the following committees were appointed by President Shepard: Revision of Honor System, V. J. Frost, '10, chairman; G. P. Scoville, '10, and N. R. Peet, '10. Lunch Room Committee: Miss Genung, chairman, Mr. R. D. Anthony, '10, and Mr. H. B. Rogers, '12. Trophy Room Committee: J. H. Rutherford, '10, chairman, R. E. Deuel, '10, and H. N. Humphrey, '11.

* * *

The Committee for the revision of the Honor System at a recent meeting recommended that Article V, Section (c) which reads: "It shall be the duty of the Committee if they shall find a student guilty to require his withdrawal from the University for such length of time as they may deem just, and in case of failure to comply with this request to present findings of the Committee to the proper authorities," be altered to read: "It shall be the duty of the Committee, if they find the offense of sufficient gravity, to require the withdrawal of the student from the University for such a length of time as may be deemed just. But if the offense be less serious, or the circumstances ameliorating, the student may be deprived of credit either for the course or for the examination in question. And in case of failure to comply with the decision, the Committee shall report the case to the proper authorities."

* * *

During the past summer a very important part of the dairy extension work has been that of the butter and cheese scoring contests which have been conducted jointly by the New York State Department of Agriculture at Albany, in charge of Commissioner

Pearson, and by the Dairy Department of the College of Agriculture. Each month during the summer some thirty cheese and butter-makers throughout the state sent in samples of their cheese and butter to the College. Here it was judged, scored and criticised by judges representing both the commercial and educational sides of the business. Commissioner Pearson supplied one judge each month, and the members of the staff of the Dairy Department assisted. The educational score cards were used. After the butter and cheese had been scored criticisms were sent to the manufacturers with suggestions for remedying defects and making improvements. Moisture tests were made of the butter each month by Mr. H. C. Troy, State Chemist. The advice given to the exhibitors has resulted in a great improvement in the quality of both cheese and butter, and many letters have been received from the makers, showing their appreciation of the work. As an inducement to the makers to send in their butter and cheese, a diploma of merit is awarded to all cheese makers who have an average score of 95 or over for the season, and to all butter-makers who have an average score of 93 or over. Those who will receive cheese certificates this year are:

Maurice H. Mann, Mount Morris, N. Y.; W. L. Brownell, Addison, N. Y.; W. W. Barnum, Portville, N. Y.; Edward Miller, Constableville, N. Y; C. R. Owens, Freedom, N. Y.

Butter certificates: Howard Bundy Meridale, N. Y.; Frank Wright, Etna, N. Y.; W. J. Emerson, Poplar Ridge, N. Y.; Ayer & McKinney, Laurens, N. Y.; T. E. Rutherford, Madrid, N. Y.; C. H. Dickson, Mount Vision, N. Y.; H. J. O'Driscoll, Burke, N. Y.; W. C. Mosher, Interlaken, N. Y.; W. & I. Mekeel, Jacksonville, N. Y.; E. Bouck, Jasper, N. Y.; C. O. Smith, Upper Lisle, N. Y.

* * *

A meeting of students of this college interested in Cross Country was held on the evening of November 3d. N. R. Peet, captain of the team which in 1907 won the championship for this College, gave a short talk. F. H. Hahnel, '11, was elected manager, the captain to be elected later. A squad is now running from the armory every afternoon at five o'clock. Date set for Inter-College Cross Country race is December 11th.

* * *

Dr. H. J. Webber, Acting Dean, attended the banquet of the Railway Business Association held in New York City, November 10th, at the Waldorf Astoria. Dr. Webber and A. R. Mann, secretary of the College, represented this institution at the Conference on County Work of the International Committee of the Young Men's Christian Association held in New York City. Morning and afternoon sessions were held on November 11th, and in the evening the 28th Annual Banquet of this committee.

* * *

At the meeting of the Forest City Grange, Nov. 6th, Professor C. S. Wilson gave an exceedingly interesting and profitable talk on "Fruit Growing in New York State, and especially in Tompkins County." He compared this region with the west as a fruit growing country, illustrating his arguments by samples of fruit from both sections.

* * *

Professor H. H. Wing went to Watertown, November 9th, to arrange for a meeting of The New York State Dairymen's Association at Watertown the week of December 13, 1909.

* * *

Mr. H. J. Moore, gardener of the Horticultural Department, has resigned his position at Cornell University to become superintendent of Queen Victoria Park at Niagara, Ontario. His address will be 36 Cataract Avnue, Niagara, Ontario.

FORMER STUDENTS

'94, Sp.—W. B. Van Alstyne, besides managing his two hundred acre farm at Kinderhook, N. Y., is showing those interested in the purchase of farm and orchard land some of the rare bargains in Columbia County real estate.

'04, B.S.A.—Walter S. Brown, writes from Corvallis, Oregon, that he has just bought 270 acres of splendid fruit land one and one-half miles from Corvallis. He has organized a stock company to handle the proposition and will plant 100 acres of pears and 25 acres of apples this fall. After graduating he went to the University of Wisconsin as Assistant Horticulturist. In 1907 he moved to the Winona Agricultural Institute, at Winona, Indiana, as an Instructor in Horticulture and Forestry.

'04, Sp.—Moseley Hale has just been heard from. He is now with the firm of Carson & Hale, haberdashers, Greenfield, Mass. He has given up the peach business. He writes his usual cheerful letter and wanted to be remembered to everyone in sight.

'07, Ph.D.—J. Eliot Coit has resigned the position of horticulturist at the Arizona station and accepted that of Assistant Professor of Pomology in the University of California. Professor Coit's work at first will be in connection with the citrus industry in Southern California and the date culture in the Imperial valley. Later he will take up general pomological work as fast as funds and assistance are available.

'07, B.S.A.—John B. Shepard is now in San Marcos, Texas, and has just been placed in charge of two more farms in addition to the "Home Farm" which he has managed for some time. Lately, Mr. Shepard has been made secretary and treasurer of the San Marcos Utilities Company into which the former water, light, ice, and sewer companies have been merged. This promotion is well deserved and we congratulate Mr. Shepard.

'08, B.S.A.—P. O. Wood, who is with the Bureau of Soils, United States Department of Agriculture is now in Meridan, Wisconsin, making a soil survey.

'08, B.S.A.—W. H. Alderman now on the staff of the Geneva Experiment Station attended the Fruit Show. He was accompanied by Mrs. Alderman.

'08, B.S.A., '09, M.S.A.—B. H. Crocheron is in Philopolis, Maryland, where he is principal of the agricultural high school a part of the Baltimore county public school system.

'08, B.S.A.—Royal Gilkey has recently won first prize offered by the *Country Gentleman* for the best essay on eliminating tuberculosis.

'08, B.S.A.—Clarence Lounsbury now with the Bureau of Soils, United States Department of Agriculture is located in Iowa County Wisconsin assisting in the soil survey of that county.

'08, W. A.—H. W. Brooks is working with his father on his farm at Olean, N. Y. Mr. Brooks is chiefly interested in poultry.

'08, W. A.—Wm. A. Coon is engaged in general farming at Batavia, N. Y.

'09, B.S.A.—S. F. Willard, Jr., is with the Vaughn Seed Store and at present is located with the greenhouse department at Western Springs, Illinois. Mr. Willard was business manager of the COUNTRYMAN during his senior year.

'09, Ph.D.—Donald Reddick was married to Miss Emma Brill of Brutus, Michigan, on Wednesday, October twentieth.

'09—E. W. Mitchell has just purchased very promising fruit farm at Stuyvesant Falls, N. Y. The farm is on the line of the Albany and Southern railroad and has upwards of 1000 apple and pear trees in bearing. This place is one of the oldest places in the state and there is located on the farm a colonial brick house over two hundred years old. Mr. Mitchell is to be congratulated on his bargain and we wish him success.

'09, B. S. A.—C. Morris Bennet and Miss Theora Lillian Trautman were married recently at Ovid, N. Y., where both resided. Mr. Bennet has accepted a position with the United States Department of Agriculture and is stationed at Madison, Wisconsin, where he is working in co-operation with the Wisconsin State Experiment Station in conducting an investigation in farm accounting.

'09, B.S.A.—E. E. Eldredge is now located at Madison, Wisconsin, where he is assistant bacteriologist in the experiment station.

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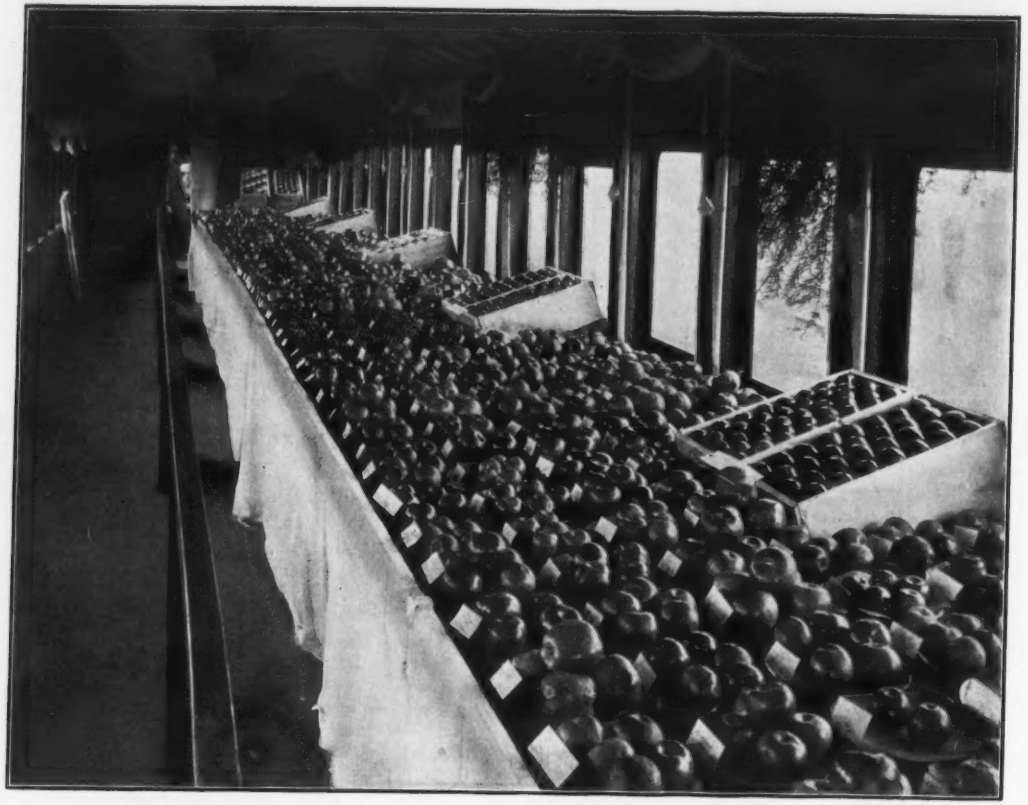

ONE CAR OF THE FRUIT TRAIN (see page 124)